INDEX.

PAGE

Absorption—
On the Origin of the Solar Dark Lines ... 177

Algol Stars—
The Light-Changes of Y Cygni 166

Alkali—
Rival Alkali Manufactures 25

Anderson, Dr. T. D.—
The Story of θ Eridani 124

Anthony, Edwyn—
Divisibility by 7 and 13 74

Apennines—
The Lunar; by A. C. Ranyard 31

Argûs—
The η Argûs Region of the Milky Way 50, 69

Astronomy—
The Astronomy of Shakspeare 35

Atmosphere—
Exploration of the Upper Air by Balloons ... 107
Equilibrium of a Solar Atmosphere ... 177, 190
On the Atmosphere of Mars 153, 173
On the absence of a Lunar Atmosphere ... 193

Bacteria—
And the Flavour of Tobacco 30

Ball Lightning—
Supposed Photograph of 193

Barnard, Prof. E. E.—
Photograph of Nebula to the north of the Trifid Nebula 11
On the Period of the fifth Satellite of Jupiter 71

Beck, H.—
Shakspeare and the Seven Stars 89

Blashill, Thos.—
Letter on a Phosphorescent Meteor 113

Boraston, J. Maclair—
On the Grouping of Stars 133

PAGE

Boys, Prof.—
His Radio-Micrometer 71

Brester, Dr. A.—
His Theory of the Sun 14, 28, 49

Bright-Line—
The Sun as a Bright-Line Star; by Miss A. M. Clerke 146

Bruce, Wm. S.—
Antarctic Seals 221

Buckley, Miss A. B.—
Notice of her book, "The Moral Teachings of Science" 155

Bulman, G. W.—
On some recent Investigations of the Geology of the Punjab Salt Range 137
The Migration of Birds 155

Butler, E. A.—
Caterpillars 4, 33, 41
Caterpillars' Dwellings 61, 85, 104
Galls and their Occupants ... 125, 143, 164, 186
Curious Cocoons 214, 225

Caterpillars—
Articles on; by E. A. Butler ... 4, 33, 41

Caterpillars' Dwellings—
Articles on; by E. A. Butler ... 61, 85, 104

Clerke, Miss A. M.—
Dr. Brester's Theory of the Sun 28
Notice of her book, "Familiar Studies in Homer" 51
The Distribution of the Stars 66
Stellar Spectra and Stellar Velocities ... 84
The Sun as a Bright-Line Star 146
The Light-Changes of Y Cygni 166
Absorption in the Sun 177
On the Solar and Stellar Photospheres ... 207

Cluster—
What is a Star Cluster? by A. C. Ranyard 90, 109

683986

PAGE

Collinson, H. M.—
The Seven Stars 48

Comets—
Notice of Mr. Lynn's book, "Remarkable Comets" 51

Copernicus—
The Great Lunar Crater; by A. C. Ranyard 169

Coral Reef—
Photograph of 95

Cornish, Vaughan—
Fluorescence and Phosphorescence 24
Chemistry and Cuisine 135
Nitrogen as Food for Animals and Plants ... 237

Craters—
The Origin of the Lunar 149

Cygni—
The Light-Changes of Y Cygni; by Miss A. M. Clerke 166

Dark Markings—
On the Lunar Plains 212

Dark Structures—
In the Milky Way 10-12

Davison, J. Ewen—
Queensland Fishes 13

Deslandres, H.—
The Solar Faculæ 230

Dewar, Prof.—
His Experiments on Liquid Air 52

Diptera—
Notice of Mr. F. V. Theobald's book, "An Account of British Flies" 130

Dixon, Chas.—
Notice of his book, "The Nests and Eggs of British Birds" 112

Earthquakes—
Photographs of; by Prof. John Milne ... 31

Eclipse—
Observation of Total Eclipse of April 15th, 1893 51
The Life-History of a Solar Eclipse; by E. W. Maunder 181

Eridani—
The Story of θ Eridani; by Dr. T. D. Anderson 124, 174

PAGE

Evaporation—
On the connection between the Intensity of Gravity at a Planet's Surface and Evaporation 171

Evershed, J.—
Explosions in the Sun 207, 233

Explosions—
In the Sun 189, 207, 233

Faculæ—
Photographs of Solar Faculæ; by G. E. Hale 107
The Solar Faculæ; by M. Deslandres and Geo. E. Hale 230, 233

Fluorescence—
Article on; by Vaughan Cornish 24

Fry, Sir Edward—
The Disaster at St. Gervais 1

Galls—
And their Occupants; by E. A. Butler 125, 143, 164, 186

Galton, Francis—
Ethnographical Survey of Great Britain ... 9
Method of Telegraphing Outline Drawings by Letters or Numbers... 53

Gases—
The Constitution of; by J. J. Stewart 53, 75, 195

Gilbert, G. K.—
His Paper on the Origin of the Lunar Craters 149

Giraffe—
Article on the; by R. Lydekker 202

Glaisher, J.—
His Highest Balloon Ascent 107

Glew, F. H.—
Method of rapidly detecting Variable Stars in Photographs 193

Gore, J. E.—
The Number and Distance of the Visible Stars 7

Graham, G. W.—
Mexican Horned Toads 13

Gregory, R. A.—
Dimensions of the Solar System compared with Distances from St. Paul's Cathedral 228

Hale, Prof. Geo. E.—
Contract for the Yerkes Telescope 9
Photograph of the Spectrum of a Solar Prominence 9
The Sun as a Bright-Line Star 192
The Solar Faculæ 233

PAGE

Halo—
About Photographic Images of Bright Stars 194

Hedgehog—
Spiny Animals ; by R. Lydekker 102

Hemphill, Dr. W. D.—
Supposed Photograph of Ball Lightning ... 193

Henry, Brothers—
Photograph of the Hercules Cluster 91
Photographs of the Moon ... 129, 149, 169, 209

Hercules Cluster—
Photographs and Drawings of ... 90, 109

Hermite, M. Gustave—
His Explorations of the Upper Air 107

Holt, J. R.—
Letter on the use of the word "pericentre" 133
On the Formation of Clouds in the Atmosphere of Mars 153

Homer—
Familiar Studies in ; by Miss A. M. Clerke 51

Hopkins, B. J.—
Notice of his book, "Astronomy for every-day Readers" 51
Letter as to popular names of the Constellations 73

Hutchings, R. S.—
Lunar Craters seen in Relief 209

Hutchinson, Rev. H. N.—
Deep Sea Deposits 43, 65, 94

Ignis Fatuus—
Article on ; by Chas. Tomlinson 46
Letter as to ; from Charles Nielsen ... 73
Letter from Chas. Tomlinson with regard to 89

India—
Some recent Investigations of the Geology of the Punjab Salt Range 137

Insect Plagues—
Letter as to Insect Plagues of Uruguay ... 74

Janssen, Dr. J.—
His Photographs of the Solar Photosphere 190, 228

Kapteyn, Prof. J. C.—
On the Distribution of the Stars in Space ... 114
Errata in his Paper 133
Letter on the Grouping of Stars 134

PAGE

Kayser—
Notice of his "Text-book of Comparative Geology" 112

Kew—
The Index Kewensis 131

Kirby, W. F.—
The Governmental Inquiry with respect to Field-Voles 134

Lemurs—
By R. Lydekker 14

Levingston, R. R.—
Supposed Photograph of Lightning 235

Lexell's Comet—
On its possible identity with Comet V., 1889 213

Lightning—
Supposed Lightning Photographs ... 193, 235

Locock, C. D.—
Chess Column each Month,

Longstaff, Dr. G. B.—
Statistical Paper on Rural Depopulation .. 168

Lubbock, Sir John—
Character of Ants 31

Lunar Mountain Chains—
The Origin of 210

Lydekker, R.—
Lemurs 14
The Extinction of Animals 21
Habits of the Pichiciago 28
Living Fossils 55
Moles and their Like 81
Spiny Animals... 101
Tusks and their Uses 121
Parallelism in Development 141
Toothed Whales and their Ancestry 161
Whalebone and Whalebone Whales 148
The Tallest Mammal 201

Lynn, W. T.—
Periodical Comet due in 1893 13
The η Argûs Region of the Milky Way ... 113
On the vse of the word "pericentre" ... 154
On θ Eridani 174
Lexell's Comet and the question of its possible identity with Comet V., 1889 213

MacDowall, Alex. B.—
Our Rainfall in recent years 235

Macgeorge, E. F.—
On the Great Lunar Plains 175

Maddy, T. H.—
The Polecat in Cardiganshire 89

XUM

PAGE

Markwick, Lieut.-Col. E. E.—
The Astronomy of Shakspeare 35

Mars—
On the Atmosphere and Temperature of; by J. R. Holt 153, 173
On the Atmosphere and Temperature of; by A. C. Ranyard 154, 174

Mastodon—
Tusks of the 121

Maunder, E. W.—
The Sun as a Bright-Line Star 177
The Life-History of a Solar Eclipse... ... 181

Max Wolf—
His Photographs of Shooting Stars 229

Mee, Arthur—
Notice of his book, "Observational Astronomy" 111

Meteor—
A Brilliant 30

Meteoric Stone—
Legal Decision as to Possession of 51

Meteors—
On certain Low-lying Atmospheric Meteors; by Chas. Tomlinson, F.R.S. 46
Variation of the Light of Meteors in passing through the Air 229

Meteors, Phosphorescent—
Letter on, from Thos. Blashill 113

Michelson, Prof.—
Measurements made with his Interference Refractometer 228

Migration—
The Migration of Birds; by G. W. Bulman... 155

Milky Way—
The η Argûs Region of the 50, 69
The Structure of the Galaxy 73, 113

Mitchiner, J. H.—
The Tel-el-Amarna Tablets 25
The Oldest Book in the World 106

Mitton, G. E.—
Insect Plagues of Uruguay 74

Moles—
And their Like; by R. Lydekker 81

Monck, W. H. S.—
The Life of Stars 49
Letter on the Structure of the Galaxy ... 73
Letter on Sirian and Solar Stars 112
The Spectra and Proper Motions of Stars ... 154
The Spectra and Motions of Stars 209

PAGE

Moon—
The Great Plains on the 129
The Great Lunar Crater Tycho 149
The Great Lunar Crater Copernicus... ... 169
The Tints of the Lunar Plains 209

Mountain Chains—
The Making of; by H. G. Wells 204

Nebula—
What is a Nebula? by A. C. Ranyard ... 10
The η Argûs Region of the Milky Way ...50, 69
What is a Star Cluster? 90, 109

Nielsen, Chas.—
Letter as to the *Ignis Fatuus* 73

Nitrogen—
As Food for Animals and Plants; by Vaughan Cornish 237

Nuthatch—
The Nuthatch; by H. F. Witherby... ... 87

Payne, Prof. W. W.—
His Astronomical Magazine, "Popular Astronomy" 148, 212

Pentacrinid—
Living Form of 55

Photosphere—
What is the Sun's? by A. C. Ranyard ... 189

Pichiciago—
Habits of the; by R. Lydekker 28

Porcupine—
Spiny Animals; by R. Lydekker 101

Ptar-Hotep—
The Precepts of; by J. H. Mitchiner ... 106

Pyramid—
The Coffin of the Builder of the Third Pyramid; by F. W. Read 223

Ranyard, A. Cowper—
What is a Nebula? 10
On the Apparent Motion of Solar Prominences 14
The Lunar Apennines... 31
The η Argûs Region of the Milky Way 50, 69
On Prof. Kapteyn's Conclusions with regard to the Distribution of the Stars 68
What is a Star Cluster? 90, 109
The Great Plains on the Moon 129
The Great Lunar Crater Tycho 149
The Great Lunar Crater Copernicus... ... 169
Absorption in the Sun 177
What is the Sun's Photosphere? 189
Halo round Photographic Images of Bright Stars 194
On the Presumption that the Material of the Universe has been uniformly distributed ... 207
The Tints of the Lunar Plains 209
Shooting Stars and their Trails 229

PAGE

Read, F. W.—
The Coffin of the Builder of the Third Pyramid 223

Riviere, Mons.—
Skeletons found in Caves in the Riviera ... 10

Roberts, Dr. J.—
Photograph of the Hercules Cluster 91

Russell, H. C.—
Photograph of the Lunar Apennines 32

Sadler, Herbert—
Face of the Sky every Month.

Scheiner, Dr. J.—
His Chart of the Hercules Cluster 91

Schooling, William—
The Earth in Space 196

Seals—
Antarctic ; by Wm. S. Bruce 221

Seven Stars—
A Name for Charles' Wain 48

Shakspeare—
The Astronomy of ; by Lieut.-Col. Markwick 35

Shooting Stars—
And their Trails ; by A. C. Ranyard 229

Simmonds, P. L.—
On Animal Plagues 9

Smithells, Prof. A.—
His Theory of Explosions in the Solar Atmosphere 189
On Explosions in the Sun 208

Stars—
The Distribution of the; by Miss A. M. Clerke 66
Stellar Velocities and Stellar Spectra ; by Miss A. M. Clerke 84

Stewart, J. J.—
The Constitution of Gases 53, 75, 195

St. Gervais—
The Disaster at ; by Sir Edward Fry ... 1

Sweeting, C. W.—
On the absence of a Lunar Atmosphere ... 193

Tel-el-Amarna—
The Tablets found at ; by J. H. Mitchiner 25

Temperature—
Of the Solar Photosphere 190
Of Mars 153, 173
Of the Moon 193
Heat developed by the passage of Meteors through the Earth's Atmosphere 220

PAGE

Theobald, F. V.—
Notice of his book, "An Account of British Flies" 130

Tomlinson, Charles—
On the St. Gervais Disaster 2
The *Ignis Fatuus* 46, 73
On certain Low-lying Meteors ... 46, 96

Townsend, C. F.—
A Volatile Series of Metallic Compounds ... 3
Rival Alkali Manufactures 25

Tree-Creeper—
Habits of the ; by H. F. Witherby 128

Tusks—
And their Uses ; by R. Lydekker 121

Tycho—
The Great Lunar Crater 149

Volcanoes—
Origin of the Great Lunar 149, 169

Voles—
The Governmental Inquiry with respect to Field-Voles 134

Watson, W. H.—
Account of a Brilliant Meteor 30

Wells, H. G.—
The Making of Mountain Chains 204

Whalebone—
And Whalebone Whales ; by R. Lydekker ... 184

Whales—
Toothed Whales and their Ancestry ; by R. Lydekker 161

Williams, W. Mattieu—
Obituary notice of 12

Wills, The Hon. Mr. Justice—
The Glacier d'Orny 1

Wilson, W. E.—
On the Comparison of Stellar Photographs .. 209

Witherby, Harry F.—
Woodpeckers 64
The Nuthatch 87
The Tree-Creeper 128

Woodpeckers—
By Harry F. Witherby 64

Yardley, Vincent—
The η Argûs Nebula 88

Young, Prof. C. A.—
Observation of the fifth Satellite of Jupiter ... 51

XUM

INDEX OF THE PRINCIPAL ILLUSTRATIONS.

PAGE

Anteater—
Picture of the Common Spiny ... 103

Apennines—
Photographs of the Lunar 32, 210

Argûs—
Sir John Herschel's Drawing of the η Argûs Nebula 69

Artichoke Gall—
Of Oak Tree 144

Artionyx—
Hind Foot of 142

Babirusa—
Skull of 122

Ball Lightning—
Supposed Photograph of 193

Caterpillars—
Of the Puss Moth 33
Of the Magpie Moth 34
Of the Pepper Moth and Elephant Moth 42

Centauri—
The Star Cluster ω Centauri ... 89

Clavius—
The Lunar Crater 149

Cocoons—
Of the Emperor Moth 215
Of the Oak Egger Moth 216
Of the Drinker and Burnet Moths 217

Copernicus—
The Lunar Crater 169-172

Coral Reef—
Photograph of a 95

Dark Structures—
In Milky Way to the north of the Trifid Nebula 11

Dolphin—
The Bridled... 161

Egger Moth—
Egg Coil of, on Hawthorn Twig ... 62
Nest of 63

Emperor Moth—
The Cocoon of the 215

Ermine Moth—
Picture of 61

Gall—
Marble Gall of Oak 126
Spangles on Oak Leaves 145
Galls on Rose Tree.. 165

Giraffe—
Picture of 202

PAGE

Hairs—
Of Caterpillar of Tiger Moth ... 6

Halo—
Due to Reflection from back of Photographic Plate 194

Hedgehog—
Picture of the Common 102

Hercules—
Photographs and Drawings of the Cluster in 90-92, 109

Ichneumon—
Cocoons of Ichneumon Flies ... 228

Larva—
Of the Emperor Moth 6

Leaf—
Nests of Leaf-rolling Caterpillars 86

Lemurs—
The Slender Loris in Sleeping and Waking Postures 15
The Tarsier of Madagascar ... 17

Lightning—
Supposed Photographs of ... 193, 234

Lunar Mountains—
Photograph of the Lunar Apennines 32

Maps—
Of Ocean Deposits and Ocean Depths 44

Mastodon—
Skeleton of the 121

Meteor Traces—
Photograph showing Meteor Tracks 230

Milky Way—
Photograph of, to the north of the Trifid Nebula 11

Moles—
The Cape Golden Mole, the Long Clawed Mole-Vole, and the Marsupial Mole 82

Moon—
Photographs of the, by the Brothers Henry 129, 150, 170, 210

Moonlight—
Photograph taken by 235

Narwhal—
Picture of the 122

Nest—
Of Small Egger Moth Caterpillar 63

Nuthatches—
And Nest plastered with Mud ... 88

PAGE

Oak Apple—
Section of an 143
Marble Gall 126

Observatory—
Of Dr. Max Wolf 230

Pentacrinid—
Living Form of 55

Photosphere—
Photographs of the Sun's 190

Pleurotomaria—
Shell of, after Dr. Woodward ... 55

Porcupine—
Picture of the Common 101

Porpoise—
The Indian 163

Puss Moth—
Caterpillar of the 33

Rainfall—
Charts of British 235

Sea Cow—
Skeleton of the Northern ... 22

Sea Lion—
The Patagonian 222

Serenitatis—
Photograph of the Mare 211

Seven Stars—
Warwickshire Inn 89

Tree-Creepers—
On an Oak Tree 128

Tusser Silk—
The Cocoon of the Tusser Silk Moth 226

Tycho—
Photograph of the Lunar Crater... 150

Uintathere—
Skull of a 123

Vaporum—
Photograph of the Mare 211

Vapourer Moth—
Cocoon of the 226

Whale—
Skull of the Greenland 184

Williams, W. Mattieu—
Portrait of 13

Woodpeckers—
Green, and Nest 64